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TRANSACTIONS, PROCEEDINGS, AND ABSTRACTS.

1908.

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- $C_{19}H_{21}O_5N$, from the action of ozone on thebaine (RIEDEL), A., i, 1006.
- $C_{19}H_{22}O_3N_2$, from the action of pyruvic acid on *p*-toluidine (SIMON), A., i, 687.
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- $C_{22}H_{30}O_9$, from *Simaruba amara* (GILLING), A., ii, 527.
- $C_{22}H_{42}O_4$, from methane, ethylene, and oxygen (LOSANITSCH), A., ii, 33.
- $C_{24}H_{44}O_2$, from the absorption of oxygen by the condensation product of ethylene (LOSANITSCH), A., i, 846 ; ii, 33.
- $C_{24}H_{30}O_4N_2$, from the action of ethyl pyruvate on *p*-toluidine (SIMON), A., i, 739.
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- $C_{26}H_{22}O_3N$, from benzyl cyanide, sodium methoxide, and ethyl cinnamate (AVERY and McDOLLE), A., i, 344.
- Substance**, $C_{26}H_{41}O_{10}N_8$, and its copper salt, from the condensation of aspartic acid and aminopinedicarboxylic acid (GODDEN), T., 1173.
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- $C_{30}H_{31}O_6N_3S_3$, from the reduction of dibenzyl-diethylthioninedisulphonic acid (GNEHM and SCHÖNHOLZER), A., i, 113.
- $C_{31}H_{44}O$ (or $C_{35}H_{45}O_2$), from the latex from *Euphorbia* (COHEN), A., i, 884.
- $C_{31}H_{45}O_3$, from olive leaves (POWER and TUTIN), T., 898 ; P., 117.
- $C_{31}H_{37}O$, from the reduction of geraniol (ENKLAAR), A., i, 664.
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- $C_{34}H_{24}O_5$, from the oxidation of the lactone of diphenyl-2-hydroxy-9-phenylanthranolacetic acid (v. LIEBIG and KEIM), A., i, 449.
- $C_{30}H_{28}$, from diphenylketenquinoline and anthraquinone (STAUDINGER), A., i, 411.
- $C_{40}H_{20}O_5$, from acetylene and oxygen (LOSANITSCH), A., ii, 32.
- $C_{40}H_{28}O_3N_2$, from the action of aniline on *o*-benzoylbenzoic acid (MEYER), A., i, 25.
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- Substance**, $C_{46}H_{34}N_4$, from bisanhydrophenacylamine (GABRIEL and LIECK), A., i, 465.
- $C_{48}H_{40}$, from acetylene (LOSANITSCH), A., ii, 33.
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- Thymol**, 2-bromo-, bromonitro-, and 2-nitro- (ROBERTSON), T., 793 ; P., 73.
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- iso*Thymol, synthesis of, and its methyl ether (BÉHAL and TIFFENEAU), A., i, 630.
- Thymonucleic acid**, constitution of (LEVENE and MANDEL), A., i, 587.
- Thymoquinol** and its methyl ethers (SEMMLER), A., i, 279.
- Thymoquinone**, dihydroxy-, hydrolysis of (FICHTER and GLASER), A., i, 660.
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- Titanous iodide**. See under Titanium.
- Tobacco**, estimation of non-volatile organic acids in (TÓTH), A., ii, 238.

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Tolidine, formation of, from hydrazo-toluene (VAN LOON), A., i, 831.

m-**Tolil** (EKECRANTZ and AHLQVIST), A., i, 993.

p-**Tolil**dioximes, isomeric, and their behaviour as to formation of complexes (TSCHUGAEFF and SPIRO), A., i, 686.

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o-, *m*-, and *p*-chloro- and -nitro-, oxidation of (LAW and PERKIN), T., 1634; P., 195.

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2-iodo-4-nitro-, derivatives of, with polyvalent iodine (WILLGERODT and KOK), A., i, 620.

p-nitro-, action of caustic alkalis on derivatives of (GREEN and BAD-DELEY), T., 1721; P., 201.

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ω -nitro-, transformation of, into the ω -dinitro-compound (PONZIO), A., i, 869.

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Toluene, ω -isomeric, velocity of transformation of (PATTERSON and McMILLAN), T., 1048; P., 135.

ω -dinitro-, action of diazo-salts on (PONZIO), A., i, 482.

Tolueneazodimethylaniline and dibromo-, coloured salts of (HANTZSCH and HILSCHER), A., i, 485.

p-**Tolueneazo- $\beta\beta$ -dinaphthylamine** (FISCHER and STRAUS), A., i, 222.

o-**Tolueneazoeugenyl** ethyl ether (AUWERS), A., i, 229.

o-**Tolueneazoguaiacol** and its acetyl derivative (COLOMBANO and LEONARDI), A., i, 68.

Tolueneazo-*p*-hydroxybenzoic acids, *o*- and *p*-, and their acetyl derivatives, and ethyl ester of the *o*-acid (GRANDMOUGIN and FREIMANN), A., i, 1024.

o-**Tolueneazindazole** and its acetyl and benzoyl derivative (GRANDMOUGIN and FREIMANN), A., i, 1024.

4-**Tolueneazo-3-methyl-5-pyrazolones**, *o*- and *p*-, and their 1-benzoyl derivatives (BÜLOW and SCHAUB), A., i, 705.

p-**Tolueneazo-orcinol**, 3:5-dibromo- (ORTON and EVERATT), T., 1020.

o-**Tolueneazophenol** and its acetyl derivative and benzenesulphonyl ester (GRANDMOUGIN and FREIMANN), A., i, 1023.

m-**Toluene-4-azoresorcinol**, 2:4:6-tri-bromo- (ORTON and EVERATT), T., 1018.

p-**Toluene-4-azoresorcinol**, 3:5-dibromo- (ORTON and EVERATT), T., 1018.

Tolueneazosalicylic acids, *o*-, *m*-, and *p*-, and their nitro- and acetyl derivatives (GRANDMOUGIN and GUIBAN), A., i, 927.

p-**Tolueneazo-*o*-toluidine**, coloured salts of (HANTZSCH and HILSCHER), A., i, 485.

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p-**Toluenehydrazoeugenyl** acetate (AUWERS), A., i, 228.

Toluene-*p*-sulphinic acid, preparation of (KNOEVENAGEL and KENNER), A., i, 971.

Toluene-*p*-sulphinic acid, alkaloidal salts, and their rotatory power (HILDITCH), T., 1621.

Toluene-*p*-sulphinic anhydride, preparation of (KNOEVENAGEL and POLACK), A., i, 971.

Toluene-2-sulphonanilide, 4-nitro- (ULLMANN and GSCHWIND), A., i, 623.

Toluene-*p*-sulphonic acid, alkaloidal salts, and their rotatory power (HILDITCH), T., 1621.

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- Toluene-*p*-sulphonic acid**, 2-amino-*p*-tolylester and sodium sulphobenzene-5-azo-2-amino-*p*-tolyl ester (ANILIN-FARBEN- & EXTRAKT-FABRIKEN VORM. J. R. GEIGY), A., i, 1022.
- 2:4-diaminophenyl ester and its diacetyl derivative, 2:4-dinitrophenyl ester, 2:4-dinitrophenylpyridinium ester, and 3:5-dinitro-tolyl ester (ULLMANN and NÁDAI), A., i, 526.
- 3:5-dinitro-*p*-tolyl ester (ULLMANN), A., i, 626.
- Toluene-*p*-thiosulphonic acid**, sodium salt, action of arsenites and cyanides on (GUTMANN), A., i, 972.
- Toluic acid**, chlorodinitro- (two) (KUNC-KELL), A., i, 729.
- o*-, *m*-, and *p*-hydroxy-, hydrazine compounds of (FRANZEN and EICHLER), A., i, 831.
- o*-Toluic acid, 4-hydroxy-, action of bromine on (ZINCKE and BUFF), A., i, 643.
- m*-Toluic acid, 5-bromo-6-hydroxy- (ROBERTSON), T., 789; P., 73.
- p*-Toluic acid, chloroimino-, chloroimino-2-nitro-, and imino-2-nitro-, isomeric esters of (HILPERT), A., i, 830.
- 2-hydroxy-, preparation and reduction of (MELDRUM and PERKIN), T., 1420; P., 187.
- p*-Toluidides, anilides, and α -naphthalides of normal fatty acids, melting points of (ROBERTSON), T., 1033; P., 120.
- o*-Toluidine, action of dichloroacetic acid on (V. OSTROMISLENSKY), A., i, 82.
- o*-Toluidine, 4-nitro-, hydrochloride of (WILLGERODT and KOK), A., i, 620.
- p*-Toluidine, preparation of, from mixed toluidines by means of *p*-toluidine hydrate (FRISWELL), A., i, 332.
- action of glyoxylic acid on (V. OSTROMISLENSKY), A., i, 889.
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- cobaltinitrite (HOFMANN and BUCHNER), A., i, 875.
- picrates (SUIDA), A., i, 523.
- p*-Toluidine, 2-iodo-, and its salts (WILLGERODT and GARTNER), A., i, 876.
- Toluidines**, *o*-, *m*-, and *p*-, action of dichloroacetic acid on (HELLER), A., i, 217.
- picrates of (VIGNON and ÉVIEUX), A., ii, 665.
- Toluidines**, *o*- and *p*-, acetyl derivatives. See Aceto-*o*- and -*p*-toluidides.

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- Toluidines**, *o*- and *p*-, calcium derivatives of (ERDMANN and VAN DER SMISSEN), A., ii, 588.
- 1-*o*-Toluidino-4-hydroxyanthraquinone** and its acetate (GRANDMOUGIN), A., i, 808.
- p*-Toluidino-1-phenyltriazole, 3:5-(or 5:3-)amino-, and its acetyl derivative (FROMM and WELLER), A., i, 702.
- 2-Toluidinopyrimidines**, *o*- and *p*-, 6-chloro-, and 6-amino- of the *o*-compound (JOHNSON, STOREY, and MCCOLLUM), A., i, 838.
- Toluins**, *o*-, *m*-, and *p*- (EKECRANTZ and AHLQVIST), A., i, 993.
- Toluoyl-*o*-benzoic acid**, *o*- and *p*-chloro- (HELLER and SCHÜLKE), A., i, 994.
- α -*p*-Toluoyl- β -phenylhydrazine, α -nitro- β -nitroso- and β -nitroso- (PONZIO and CHARRIER), A., i, 582.
- Toluquinone-2-oxime-5-*o*-mono- and -5-*op*-di-nitrophenylhydrazones** (BORSCHKE), A., i, 67.
- Tolusafuranones**, alkylated, preparation of (FARBWERKE VORM. MEISTER, LUCIUS, & BRÜNING), A., i, 225.
- o*-Tolyl β -bromoethyl ether (GATTERMANN), A., i, 32.
- trimethylene ether, and its di-4:4'-aldehyde (GATTERMANN), A., i, 34.
- m*-Tolyl ethylene ether (GATTERMANN), A., i, 34.
- p*-Tolyl benzoate, *o*-nitro-, and its reduction (AUWERS), A., i, 477.
- Tolyl arsenites**, *o*-, *m*-, and *p*- (LANG, MACKAY, and GORTNER), T., 1370.
- glycerol ethers, *o*-, *m*-, and *p*- (SCHIVKOVITCH), A., i, 978.
- p*-Tolylacetaldehyde and its derivatives (KLING), A., i, 188.
- p*-Tolylacetone, *isonitroso*- (PONZIO and GIOVETTI), A., i, 835.
- Tolylamino-**. See Toluidino-.
- p*-Tolylanthroxan (KIEGL), A., i, 550.
- Tolyl-5-arsinic acid (tolyl-5-*arsonic acid*)**, 2-amino-, and its sodium salt and its *N*-acetyl derivative (PYMAN and REYNOLDS), T., 1181; P., 143; (D. and R. ADLER), A., i, 592.
- 2-hydroxy-, sodium salt (BARROW-CLIFFE, PYMAN, and REMFRY), T., 1896.
- Tolylarsinic acids (tolylarsonic acids)**, amino-, and their acetyl derivatives (BENDA and KAHN), A., i, 592.
- Tolylazoacetoacetic acids**, *o*- and *p*-, ethyl esters, and their benzoylhydrazones (BÜLOW and SCHAUB), A., i, 705.
- Tolylazo-**. See also Tolueneazo-.

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- β -*p*-Tolylbenzylhydrazine and its hydrochloride and benzoyl derivative (SCHLENK), A., i, 738.
- p*-Tolylbenzylidenehydrazine (SCHLENK), A., i, 738.
- p*-Tolylbenzylmethylallylammonium iodide and hydrogen tartrate, resolution of (EVERATT and JONES), T., 1790; P., 212.
- p*-Tolyl- ψ -benzylthiocarbamide, cyano- (FROMM and WELLER), A., i, 703.
- α -*m*-Tolyl- $\Delta\alpha$ -butylene and its dibromide (GRISHKEWITSCH-TROCHIMOWSKY), A., i, 799.
- Tolylcarbamic acids, *o*- and *p*-, calcium salts (ERDMANN and VAN DER SMISSEN), A., ii, 588.
- p*-Tolylcarbamide, 2-iodo-, and its *N*-nitroso-derivative (WILLGERODT and GARTNER), A., i, 876.
- o*-Tolyl chloromethyl ketone, 5-chloro-(3-chloro-6-chloroacetyltoylene) (KUNCKELL), A., i, 729.
- N*-Tolylidiacetonitriles, *o*-, *m*-, and *p*- (v. MEYER and SCHUMACHER), A., i, 909.
- p*-Tolylidimethylecyanomethylammonium iodide (v. BRAUN), A., i, 628.
- 5-*p*-Tolyl-5:5-dimethylhydantoin (BAILEY and RANDOLPH), A., i, 742.
- Tolyethyl alcohols, *o*-, *m*-, and *p*- (KLING), A., i, 980.
- m*-Tolyl ethyl ketone and its oxime and semicarbazone (WALLACH and RENTSCHLER), A., i, 405.
- β -*m*-Tolyl- α -ethylpropionic acid, β -hydroxy-, synthesis and properties of, and its ethyl ester and salts (GRISHKEWITSCH-TROCHIMOWSKY), A., i, 799.
- β -*p*-Tolylglutaric acid, nitration of, and its 3-nitro-5-amino-derivative (AVERY and UPSON), A., i, 796.
- p*-Tolylguanido-*p*-tolyl- ψ -benzylthiocarbamide (FROMM and WELLER), A., i, 701.
- p*-Tolylguanido-*p*-tolylthiocarbamide and its acetyl derivative and its anhydro-compound (FROMM and WELLER), A., i, 701.
- 3-*p*-Tolylhydantonic acid and its ethyl ester (BAILEY and RANDOLPH), A., i, 741.
- o*-Tolylidenacetone (MEERWEIN), A., i, 90.
- p*-Tolylidenecarbamidoxime (CONDUCHE), A., i, 155.
- o*-Tolylidenemalonic acid, methyl ester (MEERWEIN), A., i, 90.
- p*-Tolylmethylaminoacetone nitrile, *m*-bromo-, and its platinichloride and picrate (v. BRAUN), A., i, 626.

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- 1-*o*-Tolyl-2-methylbenzimidazole, 4:7-dinitro-6-hydroxy-, and its silver salt, acetyl derivative, and ethyl ether (MELDOLA and HAY), T., 1672.
- 1-*p*-Tolyl-2-methylbenzimidazole, 4:7-dinitro-6-hydroxy-, and its salts and ethyl ether (MELDOLA and HAY), T., 1673.
- o*-Tolylmethylecyanamide (v. BRAUN), A., i, 685.
- p*-Tolylmethylecyanamide (v. BRAUN), A., i, 626.
- o*-Tolyl-*o*-methyloximesatin (v. OSTROMISLENSKY), A., i, 82.
- p*-Tolyl-*p*-methyloximesatin (v. OSTROMISLENSKY), A., i, 889.
- 1-*p*-Tolyl-3-methylpyrazole-5-sulphonic acid and its derivatives (MICHAELIS and DULK), A., i, 692.
- 1-*p*-Tolyl-3-methylpyrazolone, 5-thio-, and its derivatives (MICHAELIS and DULK), A., i, 691.
- 2-*p*-Tolyl-4-methylpyrimidine, 6-amino-, 6-chloro-, 6-thio-, 6-thiocyano-, and 6-thiocarbimido-derivative (JOHNSON, STOREY, and MCCOLLUM), A., i, 838.
- b*-*p*-Tolyl- α - α -naphthylcarbamide, α -hydroxy- (SCHEIBER and BECKMANN), A., i, 725.
- o*-Tolylnitrosoamine, *N*-benzoyl derivative (JACOBSON and HUBER), A., i, 299.
- 4-Tolyl-4:7-dimethylhydrocoumarin (FRIES and KLOSTERMANN), A., i, 822.
- β -*p*-Tolylpropionic acid, β -hydroxy-, synthesis of, and its ethyl ester and salts (ANDRIEWSKY), A., i, 799.
- 3-*m*-Tolylrhodanic acid and its condensation with aldehydes (ANDREASCH), A., i, 683.
- m*-Tolylthiocarbaminacetic acid, ethyl ester (ANDREASCH), A., i, 683.
- p*-Tolylthiolacetic acid, preparation of (KALLE & Co.), A., i, 605.
- p*-Tolylthiopyrine (MICHAELIS and DULK), A., i, 691.
- p*-Tolylthiuret, action of aromatic amines and hydrazines on (FROMM and WELLER), A., i, 701.
- 2-Tolyl-*o*-tolylidonium salts, 4-nitro- (WILLGERODT and KOK), A., i, 620.
- Tomatoes, ripening of (ALBAHARY), A., ii, 774.
- Tourmaline from Asinara, Sardinia (SERRA), A., ii, 116.
- new mineral occurring with, in Madagascar (LACROIX), A., ii, 705.
- Toxicological investigations, tannic acid in (BIGINELLI), A., i, 40.

- Toxicology**, isolation of traces of mineral substances from saline mixtures in (MEILLERE), A., ii, 62.
- Toxins**, action in the dark of fluorescent substances on, and its reversibility (KUDO and JODLBAUER), A., ii, 867.
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- Toxolecithides** (MINZ), A., ii, 413.
- Trametes suavicolens*, chemistry of (ZELLNER), A., ii, 216.
- Transference numbers**. See under Electrochemistry.
- Transformation**, law of, in stages and radioactivity (SCHMIDT), A., ii, 550.
reciprocal, of isomerides under the influence of chemical induction (TANATAR), A., i, 750.
- Transition concentrations**. See under Affinity, chemical.
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- Trees**, proteaceous, aluminium in (SMITH), A., ii, 885.
- Triacetylmethylbaptigenetin** (GORTER), A., i, 98.
- Triacetyl**-. See also under the parent Substance.
- Trianilinosilicane** (RUFF), A., i, 966.
- Trianisylselenonium** and its chloride, dichromate, hydroxide, iodide, and platinichloride (HILDITCH and SMILES), T., 1387.
- Trianisylsulphonium** and its platinichloride (SMILES and LE ROSSIGNOL), T., 755.
- Triazans**, preparation of (MICHAELIS), A., i, 471; (GOLDSCHMIEDT), A., i, 572.
- Triazines**, naphthalenoid, azo-derivatives of (CASSELLA & Co.), A., i, 482.
- Triazoacetaldehyde** (FORSTER and FIERZ), T., 1865; P., 227.
- Triazoacetic acid** and its salts, ethyl ester, and amide (FORSTER and FIERZ), T., 72.
dissociation constants of (PHILIP), T., 925; P., 114.
- Triazoacetone** (*acetonylazoimide*) and its oxime and semicarbazone, and the *p*-toluenesulphonic derivative of the oxime (FORSTER and FIERZ), T., 72.
- 1-Triazobutanone-2** and its semicarbazone, and its oxime and its *p*-toluenesulphonyl derivative, and **3-Triazobutanone-2** and its semicarbazone (FORSTER and FIERZ), T., 675; P., 54.
- Triazo-compounds**, refraction and dispersion of (PHILIP), T., 918; P., 114.
estimation of nitrogen in (RICHMOND), A., ii, 530.
- Triazoethyl alcohol** (2-triazoethanol-1) and its acetate and *p*-nitrobenzoate (FORSTER and FIERZ), T., 1865; P., 227.
- Triazoformic acid**, ethyl ester (FORSTER and FIERZ), T., 81.
- Triazo-group**, the (FORSTER and FIERZ), T., 72, 669, 1070, 1174, 1859, 1865; P., 54, 102, 143, 226, 227.
- Triazole** derivatives from dinitriles (v. MEYER and SCHUMACHER), A., i, 912.
- 1:3:4-Triazole**, 1-amino-2-thiol- (STOLLÉ and BOWLES), A., i, 474.
- γ -Triazopropane**, $\alpha\beta$ -dibromo- (FORSTER and FIERZ), T., 1178.
- α -Triazopropionic acid** and its ethyl ester, silver salt, and amide (FORSTER and FIERZ), T., 671; P., 54.
resolution of, and its reduction to alanine, and the *l*-*avo*-acid and its brucine salt, ethyl ester, and amide (FORSTER and FIERZ), T., 1859; P., 226.
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